

mental health AIDS

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Biopsychosocial Update

HIV Prevention News

About Adolescents

Research on a variety of teen sexual attitudes and behaviors has been conducted with a sample of 522 low income, sexually-active, African-American females between the ages of 14 and 18 in Birmingham, Alabama. Among recent studies and findings from this sample are the following (additional reports may be found in earlier issues of *mental health AIDS*):

o Psychological distress at baseline was associated with a range of HIV sexual risk behaviors and attitudes measured six months later. The authors recommend that clinicians screen for psychological distress in female teens as a prelude to sexual history-taking, HIV prevention counseling and, if indicated, referral for comprehensive psychological assessment and associated treatment (DiClemente et al., 2001).

o Within this sample, 62% reported that their typical sex partners were older by at least two years, an age difference associated with a greater likelihood of not using condoms during vaginal intercourse. Clinicians are encouraged to inquire about the age of male sex partners, assist young women to develop strategies for handling barriers to safer sex with older partners, and refer to community-based intervention programs that address power dynamics influencing the adoption of safer sexual practices (DiClemente et al., 2002).

o Refusal of unwanted sex on a consistent basis was associated with feeling able to negotiate safer sex, having less concern about partners' negative emotional reactions to condom negotiation, and more frequent discussion with parents regarding

sexual issues. The authors conclude that "[s]exual-risk reduction efforts directed toward adolescent females should seek to build self-efficacy to negotiate safer sex and provide training in social competency skills that may help to reduce or eliminate partner barriers to condom use. Further, sexual risk-reduction programs may be more effective if they include parents as advocates of safer sexual behaviors" (Sionéan et al., 2002, p. 55).

In this vein, Dilorio et al. (2002) report on baseline assessments of 612 11- to 14-year-olds (largely African-American) participating in "Keepin' it R.E.A.L.," an HIV prevention intervention conducted in collaboration with community-based organizations serv-

ing youth and designed for mothers and their teens. At baseline, teens who experienced greater confidence in their ability to resist peer pressure to engage in sex, saw more favorable outcomes related to delaying sex, communicated less with their mothers about sex (perhaps because mothers perceived they were not yet ready for such information), evolved their self-concept based more on their behavior and less on their popularity, and reported lower levels of stress engaged in fewer forms of sexual intimacy, while those who experienced greater confidence in their ability to resist peer pressure and reported lower levels of stress were less likely to have initiated intercourse. Dilorio and colleagues suggest that programs designed to postpone sexual debut might work to enhance skills related to confidence, self-concept, and stress management and to foster positive attitudes about delaying the initiation of intercourse.

Once sex is initiated, however, condom use is pivotal. Drawing data from two samples of heterosexually-experienced individuals – 226 urban high school students and 160 college students – Bryan, Fisher, and Fisher (2002) conclude that "preparatory" behaviors (e.g., communicating about safer sex, acquiring condoms) are key in moving from intentions to implement safer sex to the actual use of condoms. The authors recommend instructing teens and young adults about the link between preparatory behaviors and safer sexual practices and incorporating training in and role-playing of these behaviors into prevention interventions.

About Women & Men

Fishbein et al. (2001) continued analyzing data from Project RESPECT, a multisite randomized trial that compared the capacity of three clinic-based interventions to increase

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condom use and prevent HIV/sexually transmitted disease (STD) infection. A total of 2,440 men and 1,860 women were randomized to one of the three interventions (HIV education [the control condition], brief prevention counseling, or enhanced prevention counseling) and followed for 12 months. Fishbein and colleagues found that both men and women reported changes in their

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intentions to use condoms consistently that correlated with actual increases in condom use over this period and that these changes were associated with changes in attitudes, self-efficacy, and norms. And yet, while Project RESPECT changed attitudes and self-efficacy among female participants in both counseling interventions, these variables were affected only among male participants receiving enhanced counseling. Similarly, subjective norms tied to consistent condom use with main partners were affected solely among female participants receiving enhanced counseling. The authors conclude: "For people for whom condom use is an appropriate and acceptable HIV/STD risk-reduction goal, it may be important to take into account the gender, risk status, and the relative influence of the theoretical mediators (e.g. attitudes, self-efficacy, and social norms) when choosing the best intervention strategy" (p. 382).

Should increasing condom use be the *primary* HIV risk-reduction goal? In an effort to clarify the magnitude of risk inherent in sexual choices, Varghese, Maher, Peterman, Branson, and Steketee (2002) estimated the contribution of various factors to the sexual acquisition of HIV. They conclude that: "[c]hoosing a partner who tested negative instead of an untested partner reduced the relative risk of HIV infection 47-fold; using condoms, 20-fold; and choosing insertive fellatio [i.e., oral sex] rather than insertive anal sex, 13-fold. [Interestingly, c]hoosing one risk-reduction behavior substantially reduces absolute risk of HIV infection for heterosexuals but not for men

who have sex with men" (p. 38). Thus, while current risk-reduction interventions are directed mainly to increasing condom use, this model suggests that choice of partner may be more important in determining HIV risk.

About Men

Dilorio, Hartwell, and Hansen (2002) interviewed 2,676, largely African-American and Latino, men at risk for HIV and observed an association between childhood sexual abuse and drug use, alcohol problems, and risky sexual behavior in adulthood. Given the relatively high rate of abuse uncovered in this sample (25%), the authors advocate for clinicians to incorporate screening for unwanted sexual activity during childhood into sexual history interviews with men as a component of HIV risk assessment.

About Women

Van Devanter et al. (2002) randomized 604 women at high risk for HIV to either a six-session, small group, skills-training intervention focused on use of the female condom or a control condition and found that female condom use at three months post-intervention was associated with exposure to the intervention, the intention to use this barrier method, a woman having asked her partner to use a condom over the preceding 30-day period, and a woman's confidence in asking her partner to use a condom. The authors conclude that "[c]linicians counseling women in [use of the female condom] need to provide information in culturally appropriate ways, demonstrate its correct use with their clients, and provide an opportunity for their clients to practice

skills themselves, either with a pelvic model or through self-demonstration" (p. 109).

But how do women persuade their partners to use the female condom? According to Penman-Aguilar et al. (2002), who interviewed 26 male-female couples (nine consistent users, 12 experimental users, and five non-users), women who employed multiple presentation strategies were more successful in negotiating consistent use of the female condom than those who used a single approach or backed off prematurely. Among several recommendations, the authors endorse "interventions that encourage creativity and tenacity in promoting the female condom to male partners" (p. 48).

Morrison-Beedy, Carey, and Lewis (2002) surveyed a convenience sample of 537 single, low income women receiving health care in an urban setting to investigate social-cognitive precursors to condom-use stage of change. Among factors that clinicians might address, the authors found that "condom-use stage of change in women with steady main partners was influenced most by social norms and the pros of condom use. Condom-use stage of change in women with 'other' types (multiple, casual, or new) of sexual partners was influenced by HIV-related knowledge, general readiness to change sexual behaviors, and the pros of condom use" (p. 122). Given these differences, the authors suggest assessing partner type prior to initiating HIV risk reduction with single women and focusing on the advantages of condom use across partner type. Beyond this commonality, interventions will differ based on partner type.

Partner type formed a focus as well for St. Lawrence, Wilson, Eldridge, Brasfield, and O'Bannon (2001), who randomized a community sample of 445 poor African-American women to one of three theory-based HIV/STD prevention interventions and compared outcomes to those of a waiting list control group. They found that women in all three intervention groups had increased their use of condoms by one year post-intervention, while women in the control group did not. Since women initiating new relationships reported greater use of condoms than women in ongoing relationships, the

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authors contend that intervention models may be less effective when applied to women in ongoing relationships, for whom HIV/STD risk occurs primarily through extrarelational activities of their partners.

Dixon, Antoni, Peters, and Saul (2001) interviewed 187 urban, at-risk Puerto Rican women engaged in medical care and found higher rates of unprotected vaginal sex to be associated with residing with a sex partner, residing with children, greater social support from a partner, current lack of employment outside the home, and increased feelings of depression and anxiety, although *the impact of negative mood was lessened by employment outside the home.* Based on these findings, the authors observe that "clinical interventions may need to introduce the concept of employment outside of the home as a potential risk-reduction factor, as well as to reframe attributions of condom use as demonstrations of feelings of affection, loyalty, concern, and consideration for intimate sexual partners" (p.339).

Koenig et al. (2002) compared 336 HIV-positive and 298 HIV-negative (but at-risk) pregnant women and found that, overall, nearly 9% had experienced recent violence and more than one-fifth were currently involved with an abusive partner. These figures did not vary by serostatus, leading the authors to conclude that, while violence is not typically attributable to a woman's HIV status, many women living with HIV do experience violence and violence screening is recommended for all pregnant women.

Hogben et al. (2001) analyzed data on 1,109 women living with HIV and found that: 1) having experienced forced sexual contact and physical violence was associated with risky sexual behavior; 2) number of sexual partners and depression predicted the contracting of STDs; and 3) having a greater number of sexual partners increased the potential for physical violence and the contracting of STDs. Of interest was the finding that *approximately two-thirds of those women experiencing physical violence were able to halt the abuse between study visits* (i.e., during a six-month time period). In addition to monitoring abuse among women in HIV care, clinicians might learn more

about their self-protective strategies and incorporate them into clinical care in an effort to strengthen abused women's recognition of their own agency.

Finally, Reif, Wechsberg, and Dennis (2001) offered 206, predominantly African-American, women who used crack and injecting drugs a standard two-session HIV risk-reduction intervention. The women were then randomly assigned to either no additional intervention or a three-session enhanced intervention. Three months later, women who received the enhanced intervention reported a more substantial reduction in co-occurring distress than women receiving only the standard intervention, particularly women reporting higher levels of baseline distress. This suggests that a lengthier and more personalized HIV risk-reduction intervention may be more effective in reducing distress among women substance users than a standard intervention.

About Substance Users

Sherman, Latkin, and Gielen (2001) interviewed 508 injecting drug users (IDUs) to explore gender-specific factors related to syringe sharing within injecting dyads. In male-female dyads, syringe sharing was associated with the male sharing drugs on a daily basis with the female injecting partner, mutual provision of drugs with the onset of withdrawal, being sexual partners, and the injecting partner's use of "speedballs" (i.e., injecting cocaine and heroin). In male-male dyads, syringe sharing was associated with being relatives, the injecting partner's use of heroin and daily drug use, and drinking alcohol together. In addition to suggesting that clinicians address the relationship between alcohol use and risky injecting practices, Sherman and colleagues recommend intervening with long-term, stable pairs of injectors to promote risk reduction by opening discussion and examination of social norms related to drug- and needle-sharing within the dyad.

In a sample of 120 teens and young adults receiving substance abuse treatment, Tubman, Langer, and Calderon (2001) found that a history of sexual coercion was associated with patterns of alcohol use and sexual behavior that have the potential to

increase exposure to HIV. Clinicians working with substance abusers can target sexual decision-making processes, alcohol use patterns, and the underlying psychological distress associated with prior sexual abuse and/or assault to reduce HIV risk as well as the potential for revictimization.

Of note are findings by Vlahov et al. (2001), who followed 316 IDUs (133 receiving highly active antiretroviral therapy [HAART], 183 eligible but untreated) over an 18-month period and found that those receiving HAART reported stable or slightly *increased* risk behaviors when compared to those not receiving HAART. Clinicians should, therefore, encourage the maintenance of safer sexual practices and ongoing reduction of drug risks after IDUs initiate HAART.

About Men Who Have Sex with Men

Methamphetamine use is popular among gay and bisexual men on the West Coast. Shoptaw, Reback, and Freese (2002) collected data from 68 men who have sex with men (MSM) seeking outpatient methamphetamine treatment and found high rates of HIV infection associated with a history of genital gonorrhea, having unprotected receptive anal intercourse with more partners in the 30 days preceding intake, and drug injecting. Interestingly, suicidal ideation was associated with HIV-negative status in this sample. According to the authors, "[c]hanges in usual drug use or sexual behaviors toward high risk may provide leverage points, when working with methamphetamine abusers who are seronegative, to activate treatment messages ... or to implement prevention messages" (p. 103).

Suarez et al. (2001) asked 472 HIV-negative gay and bisexual men to read scenarios depicting sexual situations with a new partner varying in disclosed HIV status, use of HAART, and viral load and found that perceived HIV transmission risk was not seen as heightened across the sample when the partner was HIV-positive, taking HAART, and reporting an undetectable viral load in comparison with partners who were HIV-negative or of unknown status. This study offers preliminary evidence for the employment of contextual cues – including perceived HIV status and health – in sexual

decision-making among gay and bisexual men. Rather than “assuming” a particular HIV status on the basis of these cues, clinicians might instead encourage (at the very least) frank discussions regarding HIV status with potential sexual partners and remind clients that “undetectable” cannot be equated with “noninfectious.”

Mansergh et al. (2002) interviewed a multiethnic community convenience sample of 554 MSM in the San Francisco Bay area on the subject of “barebacking,” defined as “intentional anal sex without a condom with someone other than a primary partner”; 35% of those interviewed revealed that they were HIV-positive. Among the 70% of men aware of the term, 22% of the HIV-positive and

10% of the HIV-negative men had barebacked during the preceding two years, citing “increased physical stimulation” and “emotional connectedness” as factors in the decision to dispense with condoms. While many of those who barebacked were seroconcordant with their partner, a sizeable proportion were not. According to the authors, “[p]revention messages should simultaneously address specific risk behaviors, perceptions of HIV disease in an era of largely successful drug therapy, and issues of treatment resistance, side-effects and failure” (p. 658) as well as less risky approaches to addressing “human” needs when working with men who bareback.

In Canada, Hafer, Bogaert, and McMullen

(2001) surveyed 102 gay and bisexual men and found that, among those with a lower sense of interpersonal control, a strong belief in “a just world” (i.e., a decreased sense of personal vulnerability) was associated with more frequent anal intercourse and less frequent use of condoms. Clinicians may want to identify and address a strong belief in “a just world” and its potential impact on sexual risk behavior in MSM.

Finally, Rye, Fisher, and Fisher (2001) followed 126 gay men over a period of two months and determined that focusing exclusively on altering perceptions related to the difficulty of enacting safer sexual behaviors will not likely result in behavioral change with gay men. Instead, the authors found

Tool Box

Factors Promoting Unprotected Sex in People Living with HIV

“Ongoing prevention counseling is an essential component of the management of persons with HIV infection” (Panel on Clinical Practices for Treatment of HIV Infection, 2002, p. 29). So begins a section on prevention counseling added on February 4, 2002 to *Guidelines for the Use of Antiretroviral Agents in HIV-Infected Adults and Adolescents*.

With this historic recognition of prevention service needs among recipients of HIV primary care, it seems timely to identify factors that fuel sexual risk behavior in people living with HIV.

A Close and Careful Look at the Literature

In a landmark paper, Crepaz and Marks (2002) comprehensively reviewed studies examining a range of social, psychological, interpersonal, and medical constructs central to prevailing behavioral models of sexual risk behavior (as well as many others not tied to current theoretical models) among people who know that they are living with HIV in an effort to identify factors promoting unprotected sex in this population.

Based on findings gathered from 61 English language articles (published through June 2001) incorporating tests of association for 126 of these variables, and calculating effect sizes to ascertain the degree of association between unprotected sex and each variable in question, Crepaz and Marks drew the following conclusions regarding sexual risk behavior in people living with HIV:

- o “[U]nprotected sex was associated with having less knowledge about HIV/AIDS, its trans-

mission, and health risks, believing that safer sex decreases sexual pleasure, having less intention to engage in safer sex, having little commitment to self or others to practice safer sex, lack of confidence in one’s ability to enact safer sex practices, perceiving that one has little behavioral control over condom use, having problems communicating to partners about safer sex, and perceiving barriers to condom use” (p. 144).

- o Other variables (e.g., not recognizing a safer sex social norm; an absence of social support from partners, friends, and family; a negative attitude toward condom use; beliefs regarding consequences resulting from specific behaviors) theoretically associated with unprotected sex received little or no empirical support.

- o In the studies under review, men as well as women were more likely to have unprotected sex with seroconcordant (i.e., HIV-positive) partners (both primary and non-primary). Men who have sex with men (MSM) were more likely to engage in unprotected sex with anonymous than with known HIV-negative or unknown status partners, with an “attractive” partner, and with a partner willing to engage in risky practices. Injecting drug users (IDUs) were more likely to have unprotected sex with other IDUs; female IDUs who shared needles with their intimates were also more likely to engage in unprotected sex with them. For women, having unprotected sex was more likely when there was less self-perceived personal control over condom use, when using contraceptive techniques other than condoms, when living with a partner, and when a male partner desired children (but not when a woman herself desired children).

- o For both men and women, having had more

previous sexual contacts (measured by either number of intercourse episodes or partners) was associated with having unprotected sex.

- o Non-disclosure of one’s HIV-positive status was largely *not* associated with having unprotected sex; while non-disclosers may fear negative repercussions from disclosure, they still attempt to practice safer sex with uninformed partners. Importantly, however, disclosure was *not* an assurance that sex would be protected.

- o While there was little evidence that depression, anxiety, or psychological distress are associated with unprotected sex, anger may be a risk factor. “Experiencing anger, especially anger directed toward other persons, may lessen motivation to protect a partner, which may reduce self-monitoring of one’s behavior or reduce attention focused on the safety of the partner. Conceptually similar findings were seen for external attributions about one’s HIV infection. MSM who attributed their infection to something that another person intentionally did to them or attributed responsibility/blame for their infection to other persons were much more likely than other men to have engaged in unprotected anal intercourse with partners perceived to be HIV negative or of unknown HIV serostatus. Further, MSM and heterosexual men who attributed responsibility for protection more to sex partners than to themselves were at increased risk for engaging in unprotected anal or vaginal intercourse” (p. 145).

- o While avoidance coping among MSM was associated with unprotected sex, there was little support for the supposition that using fewer cognitive, behavioral, or problem-focused coping strategies by either men or women was associ-

that focusing on attitudes and subjective norms related to safer sex and most directly on intentions to practice safer sex are more likely to result in behavioral change with gay men. In addition, they found that the belief that one can enact a safer sexual behavior might influence intentionality, although this was not the case for all behaviors studied.

HIV Assessment News

HIV Counseling & Testing

MacKellar et al. (2002) investigated factors associated with repeat HIV testing, risk behavior, and HIV acquisition among young MSM – 3,430 15- to 22-year-olds participating in the Young Men's Survey – and found that 36% received their initial HIV testing through the study, 39% had tested once or

twice, and 26% had tested more than three times. Despite opportunities to discuss risk reduction during the study period, those testing repeatedly were more likely to report recent high-risk sexual behaviors and were also more likely to acquire HIV during the time of the study when compared with first-time testers. Clearly, clinicians are in a key position to identify, counsel, and test young MSM and initiate intensive prevention interventions (including referral to prevention case management) for those who persistently place themselves at risk for infection.

Nyamathi, Flaserud, Leake, Dixon, and Lu (2001) randomized 325 female shelter residents and their 308 sexual partners to one of three cognitive-behavioral HIV risk-reduc-

tion groups: peer-mentored, nurse case-managed, and standard HIV counseling and testing. Six months later, reductions in substance use and sexual risk behaviors, as well as improvements in psychological well-being and life satisfaction, were observed among women and their partners *across all three interventions*. The authors conclude that "HIV antibody testing with pre- and posttest counseling in and of itself may represent a powerful intervention for homeless adults, who have limited access to health care professionals" (p. 419).

Psychiatric Assessment

Screening a convenience sample of 101 adults receiving HIV outpatient services, Cohen et al. (2002) uncovered a high preva-

ated with unprotected sex. In both men and women, unprotected sex was associated with being impulsive and with being sexually compulsive; in women, being more rebellious, less empathetic, and less assertive was associated with unprotected sex.

o Unprotected sex was associated with acculturation (among Latinos) in one study but was not associated with the experience of HIV-related discrimination or stigmatization in another.

o Contrary to concerns raised by the Panel revising *Guidelines*, the studies under consideration did *not* offer compelling evidence that taking highly active antiretroviral therapy (HAART) was associated with unprotected sex. Findings related to reductions in viral load, increases in CD4 cell counts, symptomatic status, number of HIV-related symptoms, time since testing positive, and beliefs about combination therapy were similarly mixed and inconclusive.

Does HIV Counseling and Testing Reduce Sexual Risk Behavior?

Weinhardt, Carey, Johnson, and Bickham (1999) conducted a meta-analysis of 27 studies (published through June 1997) involving 19,597 individuals to assess the impact of HIV counseling and testing on sexual risk behavior. Based on a review of sexual behavior outcome data and the calculation of effect sizes, HIV-infected individuals and HIV-serodiscordant couples were found to decrease unprotected sex and increase condom use more than HIV-negative and untested individuals after counseling and testing. (Conversely, individuals who were HIV-negative did *not* change their sexual risk behavior after counseling and testing any more than participants who had not been tested.)

Across serostatus groups, higher (as contrasted with lower) sample seroprevalence and seeking (rather than merely accepting) testing were associated with greater reductions in the frequency of unprotected sex after testing, while being older (as contrasted with younger) and involved in a study with a longer (rather than shorter) period of time between receiving test results and first follow-up were associated with a greater reduction in number of sex partners after testing; receiving counseling and testing while in an IDU treatment program was associated with *no* change in condom use or unprotected sex following testing.

Weinhardt and colleagues conclude that counseling and testing does not appear to be an effective primary prevention method for uninfected individuals, although it is effective as a secondary prevention strategy for individuals who are already HIV-infected. More theory-driven research, as well as a comparison of counseling approaches, will facilitate efforts to further characterize those factors that contribute to behavior change following HIV counseling and testing, according to these authors.

Intervening in the Clinic Setting

Turning to intervention, Crepaz and Marks advocate for the integration of prevention activities into HIV outpatient clinic settings, where behavior change can be assessed (and addressed) across time and in the context of each clinic visit. Brief interventions, focusing on knowledge, motivation, and behavioral intentions and administered by primary care providers and support staff are key, along with the strategic placement of brochures and posters within the clinic emphasizing the importance of safer sexual practices.

Those clients who require more intensive, professional intervention to address emotional (e.g., anger), attributional (e.g., blaming others for one's HIV infection), and personality (e.g., impulsiveness, sexual compulsiveness) factors underlying risky sexual behavior should be referred for appropriate services. In addition, small group, skills-building sessions focused on interpersonal and partner variables associated with unprotected sex (e.g., negotiating safer sex practices, communicating effectively with partners, controlling sexual situations) can be implemented within the clinic setting with both individuals and couples.

These approaches, when combined with societal-level processes (e.g., eliminating discriminatory attitudes and practices), may help to reduce the incidence of HIV infections.

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ence of distress (72%), anxiety (70%), and depression (46%) through the use of two brief questionnaires: the Distress Thermometer and the Hospital Anxiety and Depression Scale (HADS). The authors recommend use of these tools for rapid screening in the HIV primary care setting.

HIV Treatment News

Medical Care

British researchers (Jordan, Gold, Cummins, & Hyde, 2002) conducted a meta-analysis of 54 randomized controlled clinical trials involving more than 20,000 new antiretroviral users and conclude that triple combination therapy (i.e., HAART) is the initial treatment of choice for adults and adolescents living with HIV when compared with dual combination therapy, despite the fact that the addition of a protease inhibitor (PI) increases the likelihood of discontinuing treatment. Even so, Carpenter (2002) suggests that there may be benefit to an initial four-drug regimen involving *two* PIs, since low-dose ritonavir (Norvir™), when added to another PI, may boost that PI's effect and lower the potential for viral resistance.

Along with the number of drugs prescribed, researchers continue to explore the best time to initiate treatment. Nikolic-Djokic et al. (2002) retrospectively studied the impact of HAART on 85 children living with HIV and preliminarily conclude that HAART may be delayed among children with asymptomatic HIV infection until there is evidence (immunological or clinical) of disease progression.

Finally, according to Bristol-Myers Squibb (2002), the Food and Drug Administration approved a 600 mg., once-daily tablet of efavirenz (EFV, Sustiva®) for use in place of three 200 mg. capsules currently taken once daily. This consolidated dosage may help to increase medication adherence.

Psychiatric/Psychological/ Psychosocial/Spiritual Care Neuropsychiatric Impairment

Knippels, Goodkin, Weiss, Wilkie, and Antoni (2002) compared results on the four-item cognitive functional status subscale of the Dutch language version of the Medical Outcomes Study HIV (MOS-HIV) Health Survey, administered to 85 gay men living

with HIV in the Netherlands and Belgium, with neuropsychological test performance and found that subscale responses correlated with overall neuropsychological performance. Although these findings are preliminary, Knippels and colleagues conclude that the MOS-HIV cognitive functional status subscale appears to be sensitive to changes in neuropsychological test performance occurring in the early stages of HIV infection and that a brief cognitive functional status self-report measure may be useful when screening for early manifestations of HIV-associated cognitive-motor disorders.

Davis, Skolasky, Selnes, Burgess, and McArthur (2002) developed the Modified HIV Dementia Scale (M-HDS) as a screening tool for use by non-neurologists. When performance on this scale was compared to performance on the Grooved Pegboard (non-dominant hand) among 455 people living with HIV, the instruments were found to be equally sensitive and specific for categorizing and staging HIV-associated dementia (HAD) among persons presenting a full range of cognitive-motor symptoms. Depressed scores on the M-HDS should prompt referral to a neurologist or neuropsychologist for further evaluation.

Canadian researchers (Kim et al., 2001) studied 83 HIV outpatients without documented neurocognitive impairment. Nevertheless, 34% reported neurocognitive symptoms; symptoms were associated with having taken HAART for a shorter time period and having a higher viral load. Individuals reporting symptoms were also more likely to display impaired neuropsychological test performance; in all, 46% of those studied exhibited impairment and 12% *were diagnosed with HAD*. Impairment was directly associated with greater age and higher viral load but inversely associated with number of prescribed antiretrovirals. Kim and colleagues observe that self-reported neurocognitive symptoms are frequently associated with neuropsychological impairment – particularly among older people living with HIV and those with higher viral loads – and require clinical assessment and intervention. In this regard, they suggest that taking a larger number of antiretrovirals may be neuroprotective.

Building Block

Highlights from the Ninth CROI

The Ninth Conference on Retroviruses and Opportunistic Infections (CROI) was held in Seattle from February 24-28, 2002. The following studies were among those highlighted at the conference:

- o Drawing on national surveillance data tabulated through June 2001, Fleming et al. (2002) estimate that the number of persons living with HIV/AIDS in the U.S. increased by 50,000 from 1998 to 2000, raising HIV/AIDS prevalence to between 850,000 and 950,000 during that period. Based on current trends, prevalence is projected to increase by nearly 3% per year. It is notable that, in this mathematical model, approximately 75% of infected individuals know their status (i.e., approximately 25% *still* do not) and *about one-third of those who know their status may not be engaged in ongoing care*.

- o Kitahata, Dillingham, and Rompaey (2002) followed 238 people receiving HIV medical care for at least one year and found that those who initiated highly active antiretroviral therapy (HAART) during their first year of care – *regardless of CD4 cell count* – had less than half the risk of disease progression or death as those who waited to initiate HAART. The authors advise balancing the potential benefits of early treatment with documented long-term risks.

- o Conversely, McNaghten, Hanson, Kellerman, and Blair (2002), drawing data from 4,379 people living with HIV in 10 U.S. cities, observe that 40% initiated antiretrovirals "late"

Which drugs penetrate the central nervous system (CNS)? While research has focused on nucleoside reverse transcriptase inhibitors (NRTIs; e.g., zidovudine [AZT, Retrovir®] or stavudine [d4T, Zerit®]) and PIs (indinavir [Crixivan®]), German investigators (von Giesen, Köller, Theisen, & Arendt, 2002) retrospectively reviewed non-nucleoside reverse transcriptase inhibitors (NNRTIs) – EFV (*n* = 65) and nevirapine (NVP, Viramune™; *n* = 39) – prescribed with two NRTIs for individuals experiencing progressive psychomotor slowing; 66 individuals prescribed two NRTIs without an NNRTI or PI served as controls. Regardless of the NRTIs selected, EFV and NVP appear to be equally effective in improving CNS functioning over a six-month period in persons pretreated with HAART; among the antiretroviral naïve, NVP may be more beneficial.

(i.e., when CD4 cell counts were < 200 or an AIDS-defining illness had already occurred). Hispanic ethnicity, black race, injecting drug use, and heterosexual exposure to HIV were factors associated with initiating antiretroviral therapy later than recommended.

o Treatment interruptions can be harmful when CD4 cell counts fall below 200, according to Lundgren et al. (2002), who followed 3,610 Europeans with advanced HIV disease over a five-year period and found that 16% interrupted HAART for at least three months. The risk of disease progression or death was six-fold when HAART was interrupted; even when HAART was restarted, the risk of death was doubled.

o Wolfe, Hanson, Selik, and Swerdlow (2002) compared AIDS deaths in six U.S. cities from 1992-1995 (pre-HAART era) and 1996-2000 (HAART era) and noted decreases in deaths from some AIDS-related conditions (e.g., tuberculosis, pneumonia) and increases in deaths from non-AIDS-related conditions (e.g., liver and kidney disease) since HAART began. Wolfe and colleagues speculate that these increases may be attributable to adverse medication outcomes and/or the aging of the HIV population.

o Although none is expected to be available in clinical settings in the near future, several promising, experimental drugs capable of fighting drug-resistant strains of HIV were described, including Schering-Plough's SCH-C and SCH-D (Reynes et al., 2002; Chen et al., 2002), both entry inhibitors (i.e., drugs that prevent HIV from entering cells); Tibotec-Virco's TNC125 (Gazzard et al., 2002) and Bristol-Myers Squibb's

DPC 083 (Ruiz et al., 2002), both next-generation non-nucleoside reverse transcriptase inhibitors (NNRTIs) (i.e., drugs that affect HIV's ability to replicate itself); and Shionogi & Company's S-1360 (Yoshinaga, Sato, Fujishita, & Fujiwara, 2002), an "integrase inhibitor" (i.e., drug that targets integrase, an enzyme found in HIV).

o In Brazil, Schechter, Lago, Ismerio, Mendelsohn, and Harrison (2002) gave 202 HIV-negative gay men a four-day supply of a 28-day post-exposure prophylaxis (PEP) regimen for use in the event of possible sexual exposure to HIV. While self-reported risk behavior decreased over the subsequent two-year period, 73 participants initiated PEP 110 times during the study; the full drug regimen was completed by these individuals 91% of the time. In all, 11 cases of seroconversion occurred – 10 among men who did not initiate PEP and one in the case of a man exposed to a drug-resistant strain of HIV that eluded PEP. The authors conclude that easy access to PEP not only reduces the likelihood of HIV infection, but does not appear to encourage unsafe sex.

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Note: All references are to the Program and Abstracts of the 9th Conference on Retroviruses and Opportunistic Infections, held from February 24 - 28, 2002 in Seattle, WA.

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Yoshinaga, T., Sato, A., Fujishita, T., & Fujiwara, T. *S-1360: In vitro activity of a new HIV-1 integrase inhibitor in clinical development*.

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Adherence to Treatment

Kalichman, DiFonzo, Austin, Luke, and Rompa (2002) followed 166 men and women living with HIV for nine months and found increases in viral load were associated with *clinically modest* increases in depressed affect as well as a reduction in positive attitudes toward HIV treatments. Conversely, decreases in viral load to undetectable levels were associated with *meaningful* reductions in depressed affect, while treatment attitudes remained unchanged. Kalichman and colleagues observe that people experiencing increases in viral load may benefit from interventions designed to promote continued engagement in care and enhanced motivation to continue treatment. For those who experience reductions in emotional distress related to improved health, monitoring is critical to address

changes that may occur with subsequent declines in health.

Wilson et al. (2002) collected data from a national sample of 766 women living with HIV and found that antiretroviral adherence rates of < 95% were associated with younger age, active drug use, detectable viral load, lower quality of life and, among the sexually active, greater likelihood of inconsistent condom use. Wilson and colleagues encourage clinicians to incorporate sexual risk discussion into adherence counseling, particularly for women experiencing increases in viral load, as well as those who are younger and/or active drug users.

Drawing on a sample of 78 people receiving antiretrovirals through a publicly-funded HIV clinic in England, Walsh, Mandalia, and

Gazzard (2002) prospectively compared responses on the 12-item Medication Adherence Self-Report Inventory (MASRI) against objective measures of pill taking (Medication Event Monitoring System [MEMS] caps, pill counts) and viral load and found that this questionnaire offers a valid measure of client adherence when compared with objective adherence measures.

Computers have also joined the armamentarium of adherence implements:

o Bangsberg, Bronstone, and Hofmann (2002) evaluated use of a computer-assisted, self-administered interview (CASI) to examine understanding of and adherence to antiretrovirals among 110 people living with HIV (a sample of convenience), comparing information given in response to com-

puter queries to provider descriptions of the prescribed regimen and estimates of adherence. The computer interview detected sub-optimal adherence (< 90% during the preceding three days) in 30% of clients. Notably, *54% of clients made at least one error in describing their medication regimen during the computer interview, 14% were unable to name at least one of their current medications, and 14% revealed that they were taking a medication that was not currently prescribed; these misunderstandings had not been discerned by providers.* Moreover, compared to the computer-generated report, providers overestimated adherence and correctly identified only 24% of clients who were taking less than 80% of their medication as prescribed. Based on these findings as well as participant feedback, the authors conclude that computerized antiretroviral adherence assessment is an inexpensive tool for identifying both potentially critical client misunderstandings of regimens as well as poor adherence and is acceptable to both clients and their providers.

- o Utilizing convenience sampling, Kalichman, Benotsch, Weinhardt, Austin, and Luke (2002) compared 116 adults living with HIV and engaged in care who reported Internet use to 112 who did not and found that Internet users were better informed about HIV disease, had greater confidence in their ability to adhere to their medication regimens, were more likely to employ specific medication-taking strategies, and, in the case of those who used the Internet for "general" purposes (as distinguished from the accessing of health-related information), were more likely to have an undetectable viral load. Kalichman and colleagues suggest that non-Internet users living with HIV may require additional health education and health behavior intervention, while Internet users may benefit from skills-building to enhance searching capacities and critical examination of information retrieved.

Technological innovation cannot supplant the human touch, however. Roberts (2002) interviewed 28 people living with HIV and found that a comfortable and trusting relationship with a primary provider was associated with greater adherence to antiretroviral medications, while a lower quality re-

lationship could impede adherence. Roberts underscores the importance of promoting and strengthening bonds between providers and their clients at every opportunity for the purpose of facilitating adherence.

Expanding on this theme, Fogarty et al. (2002) analyzed findings from 18 articles and 56 conference abstracts published prior to April 1999 reporting on correlates of HIV medication adherence or interventions designed to promote same. Sorting through more than 200 variables, they conclude that:

- o More demanding regimens, or those producing more side effects, were associated with reduced adherence, while education to increase client knowledge, recall, salience, and/or understanding, as well as scheduling medications into daily routines and using reminders (e.g., pill boxes, timers) were associated with greater adherence;

- o Clients with positive attitudes about their HIV infection, positive attitudes about their regimen, social support, and provider support demonstrated greater adherence;

- o Access to institutions providing health care services and to medications was associated with greater adherence; and

- o While a range of client attributes have been studied, *no entirely consistent* predictive relationships between sociodemographic factors and adherence were discerned.

Sixteen intervention studies, employing a range of cognitive, behavioral, and affective strategies, were reviewed. Overall, effectiveness was found to be weak, thus limiting the establishment of guidelines to assist clinicians in enhancing client adherence. Nevertheless, Fogarty and colleagues observe that "a consistent theme to emerge in [the HIV-related adherence intervention] literature ... was the critical role of the patient-provider relationship in maximizing patient adherence. More active partnerships between patients and providers were seen as critical to patients' ability to successfully cope with the very complex and demanding HIV treatment regimens. The HIV patient may have an especially critical need for the physician as a source of technical

and informational expertise, as well as social and emotional support. The communication interventions that address these issues may be worthy of special consideration" (p. 102-103).

Serostatus Disclosure

In contrast with earlier cross-sectional studies suggesting that disclosure of maternal HIV status did not appear to be associated with a negative impact on young children, Shaffer, Jones, Kotchick, Forehand, & the Family Health Project Research Group (2001) found that *mothers reported an increase in child behavioral problems and a decrease in the quality of the mother-child relationship following disclosure.* Their longitudinal study involved 99 inner-city, African-American mothers living with HIV and one non-infected child between the ages of six and 11 at the time of recruitment.

Extending this line of research, Kirshenbaum and Nevid (2002) examined the mother-child disclosure experiences of 58 HIV-positive women. In this sample: 75% of children were disclosed to by mother; 57% were told that mother had HIV/AIDS (the remainder were told mother had some type of illness); 64% were given additional health information; 68% were informed of mother's potential death; and 66% were not told to keep disclosures secret. Initial disclosure occurred, on average, when children were seven years of age. Also: 1) a broader range of information was disclosed to children when mothers had higher T-cell counts, suggesting that "[m]others who choose to disclose information during periods of better health may feel less pressured and better able to discuss their health status with their children as more serious HIV-related illness may feel less immediate" (p. 12); and 2) the only aspect of disclosure that appeared to be related to child adjustment was a request to keep disclosures secret, an instruction associated with more behavioral problems than when children were not asked to keep secrets.

Kirshenbaum and Nevid suggest that clinicians begin HIV psychoeducation and disclosure planning when mothers are in good health and potentially better able to share details regarding their illness with their chil-

dren. Women who are more ill may need greater support in sharing the details of their illness. Clinicians can also sensitively explore with mothers their desire for information to be kept secret, explain how this could affect children, address issues underlying the request (e.g., guilt, shame, fears of stigmatization) and, if secrecy appears necessary, assist mothers in developing strategies to minimize the stress involved in children's complying with this request.

Stress Management

Antoni et al. (2002) randomly assigned 25 gay men living with HIV to either a 10-week stress management intervention or a waiting list and found that those receiving the intervention had higher counts of "transitional" naive T-cells six to 12 months later than those who did not. The authors conclude that "[s]tress management is associated with immunologic reconstitution in HIV-positive gay men" (p. 143).

Care for Caregivers

Land and Hudson (2002) surveyed 154 low income, urban, largely monolingual Latinas providing care to people living with HIV – 57 HIV-positive, 54 HIV-negative, and 43 of unknown status – and found that, across these groupings, caregivers experienced multiple losses, little control over their circumstances, poor self-esteem, depressive symptoms, and chronic health problems unrelated to HIV (e.g., high blood pressure, diabetes). Land and Hudson recommend the implementation of culturally-appropriate physical and mental health services for these underserved caregivers, as well as respite care and other supportive services.

Coping Strategies, Quality of Life, & Social Support

Studies have determined that people living with HIV who are also cigarette smokers are at greater risk than nonsmokers of developing oral lesions, bacterial pneumonia, and HAD. Indeed, Turner et al. (2001) surveyed 548 people living with HIV and found that current cigarette smokers had a lower health-related quality of life than nonsmokers, suggesting that use of smoking cessation interventions with people living with HIV may improve quality of life. But how many smokers want to quit?

Mamary, Bahrs, and Martinez (2002) surveyed 228 people receiving outpatient HIV care in San Francisco and found that 54% were smokers, a prevalence rate three times that of the general adult population in San Francisco. A majority (63%) of current smokers reported a desire to quit (men were more likely than women to have previously attempted to quit) and expressed willingness to use smoking cessation methods concurrently (e.g., nicotine replacement; participation in a group program), an approach found to increase chances for long-term success. Based on these findings, clinicians are encouraged to assess and document tobacco use among people living with HIV, promote smoking cessation within the routine delivery of health care, and refer for treatment and follow-up to address relapse. Group interventions developed for and including only people living with HIV may be preferred by some smokers and should be made available to these individuals.

On the subject of group work, researchers in Spain (Blanch et al., 2002) offered structured, 16-week, cognitive-behavioral group therapy to a diverse sample of 39 men and women living with HIV who had been referred to a consultation-liaison psychiatry department. They found that group participation improved symptoms of anxiety and depression during the intervention and that benefits continued three months post-intervention. Those with a higher level of anxiety at baseline experienced the greatest improvement in anxiety; except in the case of IDUs, depressive symptoms also improved following the intervention. These findings suggest that cognitive-behavioral group therapy has the potential to reduce emotional distress in HIV-positive people receiving outpatient mental health services.

Does emotional release improve the health of people living with HIV? Italian investigators (Solano et al., 2001) studied 42 asymptomatic, HIV-positive individuals to observe the relationship between CD4 cell counts and emotion and found that those with the highest counts showed *intermediate* levels of expressed emotion, coupled with a high capacity for emotional processing. The authors conclude: "On the whole, our data appear to support the usefulness for health

of a process of working through emotions, as a means of reorganizing experience internally, rather than as a process of release. [The findings go] against an idea of progressive improvement in health the more emotion is released, but, rather, [support] the idea of an optimal level of processing. On the other hand, [the capacity for working through emotions] shows a linear correlation with immune status" (p. 696).

The facilitation of emotional processing may have been on the minds of Ball, Tannenbaum, Armistead, Maguen, and The Family Health Project Research Group (2002), who compared 99 inner-city, African-American women living with HIV to 143 demographically-matched, noninfected women and found no differences in coping style between these groups. Likewise, within the group of women living with HIV, there were no differences in coping style between asymptomatic and symptomatic women. Among the HIV-positive women as a group, however, greater use of emotion-focused coping (e.g., support seeking, prayer, optimism) was associated with fewer depressive symptoms and less psychological distress in general. Interestingly, for asymptomatic women, greater use of problem-focused coping (e.g., planning and acting to reduce illness-related stressors) was associated with better functioning, while *the opposite appeared to be true for symptomatic women.* Ball and colleagues advise clinicians to assess coping style in African-American women living with HIV, foster emotion-focused coping (e.g., enhancing and encouraging use of a social support network), and promote problem-focused coping among asymptomatic women.

What about coping strategies utilized by trauma survivors? Simoni and Ng (2002) found high levels of sexual (39%) and physical (44%) trauma prior to age 16 among 230 poor, African-American and Latina women living with HIV in New York City. Early trauma not only correlated with later trauma, but also with perceived health among these women. According to Simoni and Ng, "HIV-positive women with abuse histories may tend toward somatization, ... may inflate the effects of their medications' side effects ... (and) may be more likely to seek

Tool Box

Books & Articles of Interest

Bartlett, J.A. (2002). Addressing the challenges of adherence. *Journal of Acquired Immune Deficiency Syndromes*, 29(Suppl. 1), S2-S10. Bartlett reviews research on the challenges of adherence in HIV treatment and presents strategies for overcoming adherence obstacles.

Bensalem, M.K., & Berger, J.R. (2002). HIV and the central nervous system. *Comprehensive Therapy*, 28(1), 23-33.

Bensalem and Berger review HIV-associated disorders of the central nervous system.

Farber, E.W., & McDaniel, J.S. (2002). Clinical management of psychiatric disorders in patients with HIV disease. *Psychiatric Quarterly*, 73(1), 5-16.

Farber and McDaniel present an overview of biomedical, intrapersonal, and psychosocial factors that must be considered when providing mental health assessment and treatment services to people living with HIV.

Ferrando, S.J., & Wapenyi, K. (2002). Psychopharmacological treatment of patients with HIV and AIDS. *Psychiatric Quarterly*, 73(1), 33-49. Ferrando and Wapenyi review the psychopharmacological management of anxiety, depression, mania, and psychosis in people living with HIV, highlighting psychotropic-antiretroviral drug interactions.

Gonzalez, F.J. (2001). *HIV and depression: Context and care*. San Francisco: UCSF AIDS Health Project.

Gonzalez offers socially- and culturally-informed practice guidelines on diagnosing and treating depression in people living with HIV.

Greenberg, J.B. (2001). Childhood sexual abuse and sexually transmitted diseases in adults: A review of and implications for STD/HIV programmes. *International Journal of STD & AIDS*, 12(12), 777-783.

Greenberg reviews research on risk factors for

childhood sexual abuse, the long-term effects of such abuse on sexual behavior and the acquisition of STDs, links between abuse in childhood and adult sexual health, and approaches to screening and intervention that may be implemented in HIV prevention programs.

Martin, L., Tummala, R., & Fernandez, F. (2002). Psychiatric management of HIV infection and AIDS. *Psychiatric Annals*, 32(2), 133-140.

Martin, Tummala, and Fernandez present a concise overview of HIV-related neuropsychiatric disorders and suggested treatment approaches.

McKinnon, K., Cournos, F., & Herman, R. (2002). HIV among people with chronic mental illness. *Psychiatric Quarterly*, 73(1), 17-31.

McKinnon, Cournos, and Herman review the interface of HIV and severe mental illness and interventions appropriate for those at risk.

Mitty, J.A., Stone, V.E., Sands, M., Macalino, G., & Flanigan, T. (2002). Directly observed therapy for the treatment of people with human immunodeficiency virus infection: A work in progress. *Clinical Infectious Diseases*, 34(7), 984-990.

Mitty and colleagues review current efforts to adapt directly observed therapy (DOT) for the management of HIV infection.

Morrow, K., Costello, T., & Boland, R. (2001). Understanding the psychosocial needs of HIV-positive women: A qualitative study. *Psychosomatics*, 42(6), 497-503.

Women living with HIV provide Morrow, Costello, and Boland with guidance on the structuring of support groups.

O'Leary, A. (Ed.) (2002). *Beyond condoms: Alternative approaches to HIV prevention*. New York: Kluwer Academic/Plenum Publishers.

Drawing on cutting-edge research, O'Leary has assembled information on an array of approaches to HIV prevention that do not rely exclusively on male condoms. These include: abstinence; HIV testing and "negotiated safety"; treating other STDs; woman-controlled technologies; treatment advances as prevention;

structural interventions; and psychopharmacology to support behavior change.

Robinson, B.E., Bockting, W.O., Rosser, B.R.S., Miner, M., & Coleman, E. (2002). The Sexual Health Model: Application of a sexual approach to HIV prevention. *Health Education Research*, 17(1), 43-57.

According to the authors, "[t]he aim of the Sexual Health Model is to provide a theoretical framework for improving people's overall sexual well-being. The assumption underlying the application of the model to HIV prevention is that sexually healthy persons (i.e. persons who are sexually literate, comfortable and competent) will be more likely to make sexually healthy choices, including decisions concerning HIV and sexual risk behaviors" (p. 51). The article discusses the model and preliminary findings from interventions that take this approach to populations at risk.

Robinson, M.J., & Qaqish, R.B. (2002). Practical psychopharmacology in HIV-1 and acquired immunodeficiency syndrome. *Psychiatric Clinics of North America*, 25(1), 149-175.

Robinson and Qaqish review "the psychopharmacologic treatment of major psychiatric syndromes in patients infected with HIV-1."

Wachsler-Felder, J.L., & Golden, C.J. (2002). Neuropsychological consequences of HIV in children: A review of current literature. *Clinical Psychology Review*, 22(3), 441-462.

Wachsler-Felder and Golden review neuropsychological findings (and methodological weaknesses) in the area of pediatric HIV and offer suggestions for future investigations.

Woodcock, A., & Bradley, C. (2001). Validation of the HIV Treatment Satisfaction Questionnaire (HIVTSQ). *Quality of Life Research*, 10(6), 517-531.

Woodcock and Bradley validate a 10-item questionnaire that assesses the client perspective on treatment and offer instructions for its use.

--Compiled by Abraham Feingold, Psy.D.

care but less likely to benefit from it. If they perceive their health to be poor or as interfering in their lives, they may consequently function less adaptively, be less likely to return to work or family responsibilities, and neglect follow-up health care" (p. 92). These findings underscore the need to assess and treat trauma, both past and present, among women living with HIV and assist these women in recognizing their ability to take an active role in their own health care.

In a descriptive, three-year study, Battles and Wiener (2002) followed 55 teens engaged in clinical trials who had contracted HIV perinatally or through a transfusion. They found that social support and disclosure were associated with less problem behavior, although highly public disclosure was associated with a lower sense of self-competence in these teens. In addition, academic achievement was lower than that found in healthy peers and depressive

symptoms were associated with the experience of losing a parent. To facilitate psychosocial adjustment, the authors recommend that clinicians monitor coping behaviors (including sexual activity and substance use), be attentive to delayed grief reactions in teens who have lost friends and family members, and support increased academic achievement and skills-building to prepare teens who have survived childhood HIV infection for independent living.

Lichtenstein, Laska, and Clair (2002) studied 21 men and women living with HIV and found an association between "chronic sorrow" and illness, fear of death, poverty, and social isolation, particularly for women with children. Based on these preliminary findings, the authors conclude that stigma may serve as a marker of chronic depression in people living with HIV and must be taken into consideration when attempting to provide support services to those who experience such stigmatization.

Social isolation may be of particular concern to people living with HIV in rural areas. Ullrich, Lutgendorf, and Stapleton (2002) surveyed 121 people living with HIV in both metropolitan and rural areas and found that rural gay and bisexual men reported more depression and fewer outlets for HIV-related discussion than their metropolitan counterparts. To mitigate against depression, the authors suggest that clinicians assist gay and bisexual men living with HIV to identify outlets for discussing HIV-related stress, both face-to-face and through letter writing, telephone contact, or use of the Internet.

Lastly, Erlen, Mellors, Sereika, and Cook (2001) randomized 20 people living with AIDS – 10 to a structured "life review" intervention and 10 to a control condition – and found, over a 12-month period, that those participating in life review (i.e., a guided evaluation of the entire lifespan to promote a positive perspective and to formulate future plans) demonstrated decreases in depressive symptoms and increases in self-esteem and quality of life; purpose in life also increased during the initial three months of the intervention. Through this feasibility study, Erlen and colleagues suggest that life review may have value for people living with AIDS.

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Tool Box

A Note About Content

This publication has been developed to help the frontline provider of HIV-related mental health services, allied professionals, and consumers stay up-to-date on research-based developments in HIV care. The contents for the "Biopsychosocial Update" are drawn from a variety of sources including, but not limited to: the *CDC HIV/STD/TB Prevention News Update* (<http://www.cdcnpin.org/news/prevnews.htm>); the *Kaiser Daily HIV/AIDS Report* (<http://report.kff.org/hiv/aids/>); and periodic literature reviews e-mailed by researcher Robert Malow, Ph.D. at the University of Miami. Other sources of information are identified when appropriate.

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It is presumed that readers have at least a fundamental understanding of medical, psychosocial, and neuropsychiatric considerations for assessing and intervening with people who are living with HIV/AIDS and their families. For additional background information, the following resources may be of assistance:

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